REMARKS

Claims 1-3 and 5 are pending. By this Amendment, Claim 4 is canceled without prejudice or disclaimer and Claims 1-2 are amended. Because Claim 1 has been amended to incorporate that which is recited in previously considered Claim 4, as such, Applicants respectfully submit that no new material is presented herein.

Entry of Response Proper

Entry of this Amendment is proper under 37 C.F.R. §1.116 since the amendments: (a) place the application in condition for allowance for the reasons discussed herein; (b) do not raise any new issues requiring further search and/or consideration on the part of the Examiner since Claim 1 has been amended to incorporate that which is recited in previously considered Claim 4; (c) satisfy a requirement of form asserted in the previous Office Action; (d) do not present any additional claims without canceling a corresponding number of finally rejected claims; and (e) place the application in better form for appeal, should an appeal be necessary. The Amendment is necessary and was not earlier presented because it is made in response to objections raised in the Final Rejection. Entry of the Amendment is thus respectfully requested.

Personal Interview

Applicants acknowledge and appreciate the courtesies extended to Applicants' representative during the personal interview conducted on June 21, 2006. The points discussed during the interview are incorporated herein.

Claims 1-3 and 5 Recite Allowable Subject Matter

Claims 1-3 and 5 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Number 6,383,361 to Moulthrop, Jr. et al. (Moulthrop) in view of U.S. Patent Number 5,635,039 to Cisar et al. (Cisar), or further in view of U..S. Patent Number 3,720,164 to Casson, Jr.. Claim 4 is rejected under 35 U.S.C. §103(a) as being unpatentable over Moulthrop in view of Cisar and Casson, and further in view of U.S. Patent Number 5,460,705 to Murphy et al. Applicants respectfully traverse the rejections for the following reasons.

Claim 1 recites a water electrolysis system including a water electrolysis means including a pair of catalyst layers and an electrolyte membrane sandwiched by both of the catalyst layers, for electrolyzing pure water supplied to the catalyst layers, and for generating hydrogen from one catalyst layer and a gas/liquid mixture of oxygen and pure water from the other catalyst layer; a gas/liquid separating means for separating pure water from the gas/liquid mixture of oxygen and pure water both brought out from the water electrolysis means; and a backflow means for making the pure water, separated by the gas/liquid separating means, flow back to the water electrolysis means; wherein the gas/liquid separating means is directly connected to a discharge opening through which the gas/liquid mixture of oxygen and pure water is brought out from the water electrolysis means without any intermediate piping; wherein the ***gas/liquid separating means comprises an intake opening for mint pure water to be supplied to the water electrolysis means after merging with recovered pure water within the gas/liquid separating means***, and wherein the gas/liquid mixture directly flows into the gas/liquid separating means through the discharge opening.

As a result of the structural arrangement of the features recited in Claim 1, mint pure water is supplied to the gas/liquid separating means from the intake opening and made to merge with the recovered pure water within the gas/liquid separating means to be supplied to the water electrolysis means. Accordingly, the backflow means for the recovered pure water and a supply means for supplying mint pure water to the water electrolysis means are made to share the same means, and the system configuration is simplified. See page 5, line 16 to page 6, line 2 of the originally filed application.

Applicants respectfully submit that the applied art of record does not teach or suggest each and every feature recited by Claim 1.

For example, as noted above, Claim 1 recites mint pure water (H_2O) flows into the gas/liquid separating means from the intake opening. In Moulthrop, hydrogen saturated water ($H_2 + H_2O$) flows into the tank (82).

In yet another example, the gas/liquid separating means is directly connected to a discharge opening through which the gas/liquid mixture of oxygen and pure water ($H_2 + H_2O$) is brought out from the water electrolysis means without any intermediate piping. Applicants maintain that Moulthrop fails to disclose or suggest such a structural arrangement/feature.

Regarding Claim 2, Applicants note that in the present invention water H_2O is purified with the aid of ion exchange resin disposed inside the purifying unit (9) in which the ions contained in the water (H_2O) are removed by the resin. In contrast, in Moulthrop, once the oxygen/water mixture ($H_2O + O_2$) is introduced to the tank (82), hydrogen and oxygen react in the catalyst bed (81) and the water is deionized by the catalyst (85) distributed throughout the catalyst bed (81). See column 3, lines 3-17 of

Moulthrop. As such, Moulthrop actually teaches a system that neutralizes the ions rather than removes the ions.

Cisar is applied for teaching an electrochemical cell used as a water electrolyzer as well as a pair of catalyzed electrodes separated by a proton exchange membrane. Therefore, Applicants respectfully submit that Cisar fails to overcome or otherwise address the above-described deficiencies of Moulthrop.

Casson is applied for teaching the use of purified water in making corrosion resistant metallic lithographic plates as well as metal pipings and vessels are known to cause contaminations in water. Therefore, Applicants respectfully submit that Casson fails to overcome or otherwise address the above-described deficiencies of Moulthrop.

Murphy is applied for teaching a water electrolyzer producing ozone, wherein the electrolyzer includes a cell stack of proton exchange membrane separated catalyst coated anodes and cathodes, as well as a gas/liquid separation tank equipped with an intake pipe for de-ionized water. Therefore, Applicants respectfully submit that Murphy fails to overcome or otherwise address the above-described deficiencies of Moulthrop.

To establish *prima facie* obviousness, each feature of a rejected claim must be taught or suggested by the applied art of record. See M.P.E.P. §2143.03. As explained above, Moulthrop, Cisar, Casson, and Murphy, alone or in any combination, fail to teach or suggest each and every feature recited by Claim 1. Therefore, Applicants respectfully submit Claim 1 is not rendered obvious by the teachings of Moulthrop, Cisar, Casson and Murphy.

Accordingly, Applicants respectfully submit Claim 1 should be deemed allowable for the reasons discussed above.

Claims 2-3 and 5 depend from Claim 1. It is respectfully submitted that these dependent claims should be deemed allowable for the same reasons Claim 1 is allowable, as well as for the additional subject matter recited therein.

Applicants respectfully request withdrawal of the rejections.

Conclusion

In view of the foregoing, reconsideration of the application, withdrawal of the outstanding rejections, allowance of Claims 1-3 and 5, and the prompt issuance of a Notice of Allowability are respectfully solicited.

Should the Examiner believe anything further is desirable in order to place this application in better condition for allowance, the Examiner is requested to contact the undersigned at the telephone number listed below.

In the event this paper is not considered to be timely filed, the Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300, **referencing docket number 101175-00034**.

Respectfully submitted,
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